FullStack JS/TypeScript, Spring 2021

How I have designed the course.

The course is divided up into 4 periods, each with a lot of exercises that will form the basis for the examination.

From period 2, as a supplement to the exercises, there will be an ongoing semester project which hopefully should tie most of the technologies together, and also ensure that "things" learned in one period can be used in the next. Make sure to read/watch the description of the semester project before day 1 since it will give you a clear idea about, what you are supposed to learn this semester.

You will find the description for the periods here, but typically don't count on it more than 1-2 lessons into the future since the content of this course changes each semester. The documents for each period will also include all literature, exercises, lectures, links to slides etc.

Professional competencies

JavaScript is one of the most demanded programming skills (ref: it.jobindex.dk).

In this course you will get the necessary background to join modern full-stack teams, using JavaScript and supplementing JS-frameworks/libraries in browsers, mobile apps, and on the server. The course also introduces geolocation (on clients and server), NoSQL, and some of the hottest new technologies right now like GraphQL in order to introduce students to technologies used by full-stack JavaScript projects in the real world, right now.

Study Activities, apart from attending lessons

For most lessons, you will find a section marked "*before this lesson you should*" with articles to read, and/or videos to watch, and sometimes software you should have installed before the lesson + a *section with exercises* which forms the background for the four compulsory hand-ins. As a minimum, *you should expect to spend the same amount of time with preparation and exercises*, as the hours assigned to lessons.

Learning Goals

Learning goals will be given for each of the periods as *exam-questions*. This should make it very easy to see what the expected outcome is, by the end of the semester. Given how fast things evolve in the JavaScript world, the descriptions are not complete yet. The only promise I can give is; that by the end of a period, the goals for that period will be locked, so you can start preparing for the exam.

Preconditions for this course?

You are expected to know fundamental JavaScript, as introduced in the previous semester. You are also expected to know, again from the third semester, React. If you don't feel quite comfortable with all this right now, don't worry. You will by the end of the semester :-)

A project or not a project

You have an option (as in you decide) to form a group (2-4 students) and, in parallel with the normal course, complete a mini-project covering a topic of your own choice (must be approved first). You should do this ONLY if you feel you have the time and can see a future reward in covering these extra topics. Example projects are:

- Try to make the semester case to a "real" project.
- Try to build a simple proof of concept Desktop Application with JavaScript and Electron
- Build a simple Progressive Web App
- Investigate Angular or Vue, perhaps because you know you have to use it for your internship period.

If you decide to go with a project, you can request (must happen before the exam) to include this as part of the exam. This is outlined in the next section.

Exam

A 30 minutes individual oral examination without preparation. Depending on whether you have decided to complete a mini-project, the exam will happen in one of two ways:

With a project, 50% of the time is spent on a presentation of the project. After that, you will draw a question that will form the basis for the remaining time

Without a project, you will draw two questions (from different periods) and must use approximately 50% of the time on each. Note you will never draw a question involving questions taken both from period 3 + 4 (so focus on period 1-3 or 1, 2, 4) if you have a time issue.

All exam questions will be published (as learning goals) at the start of each period.

How to get your StudyPoints

You get your studypoints from the four period-hand ins as sketched below (if you only hand in three, I will round UP to the nearest number ending with a zero):

- P1: 25 points
- P2: 25 points
- P3: 25 points
- P4: 25 points

You must earn at least 80% (= 80 points) to be approved for the exam, and you must have made an attempt with, <u>as a minimum,</u> the period 1+2 hand-ins + either the P3 or P4 hand-in.